



National Oceanic and Atmospheric Administration

50 CFR Parts 223 and 224

[Docket No. 231201-0285; RTID 0648-XR129]

Endangered and Threatened Wildlife; 90-Day Finding on a Petition to List Chinook Salmon on the Washington Coast as Threatened or Endangered under the Endangered Species Act

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

ACTION: 90-day petition finding, request for information, and initiation of status review.

SUMMARY: We, NMFS, announce a 90-day finding on a petition to list spring-run Chinook salmon (*Oncorhynchus tshawytscha*) on the Washington Coast (WC) as threatened or endangered under the Endangered Species Act (ESA) or, alternatively, list the existing WC Chinook salmon Evolutionarily Significant Unit (ESU) as currently defined (inclusive of all run types) as threatened or endangered under the ESA. The petition also requests that we designate critical habitat concurrently with the listing. We find that the petition presents substantial scientific or commercial information indicating the petitioned action to list may be warranted. We will conduct an ESU analysis and status review to determine whether the petitioned action is warranted. To ensure that the status review is comprehensive, we are soliciting scientific and commercial data, including traditional ecological knowledge pertaining to Chinook salmon that spawn north of the Columbia River and west of the Elwha River from any interested party.

DATES: Scientific and commercial data pertinent to the petitioned action must be received by February 5, 2024.

ADDRESSES: You may submit scientific and commercial data relevant to our review of the status of Chinook salmon on the WC, identified by “Washington Coast Chinook Salmon Petition” or by the docket number NOAA-NMFS-2023-0148, by any of the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to <https://www.regulations.gov> and enter NOAA-NMFS-2023-0148 in the Search box (note: copying and pasting the FDMS Docket Number directly from this document may not yield search results). Click on the “Comment” icon, complete the required fields, and enter or attach your comments.
- *Mail or hand-delivery:* Protected Resources Division, West Coast Region, NMFS, 1201 NE Lloyd Blvd., Suite #1100, Portland, OR 97232. Attn: Shivonne Nesbit.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on <https://www.regulations.gov> without change. All personal identifying information (*e.g.*, name, address, *etc.*), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter "N/A" in the required fields if you wish to remain anonymous).

Electronic copies of the petition and related materials are available from the NMFS website at <https://www.fisheries.noaa.gov/endangered-species-conservation/candidate-species-under-endangered-species-act>.

FOR FURTHER INFORMATION CONTACT: Shivonne Nesbit, NMFS West Coast Region, at shivonne.nesbit@noaa.gov, (503) 231-6741; or Margaret Miller, NMFS Office of Protected Resources, at margaret.h.miller@noaa.gov, (301) 427-8457.

SUPPLEMENTARY INFORMATION:

Background

On July 17, 2023, the Secretary of Commerce received a petition from the Center for Biological Diversity and Pacific Rivers (hereafter, the Petitioners) to list the spring-run Chinook salmon on the WC as a threatened or endangered ESU under the ESA or, alternatively, list WC Chinook salmon (inclusive of all run types) as a threatened or endangered ESU. The Petitioners also request the designation of critical habitat concurrent with ESA listing.

Previously, in 1999, we identified the WC Chinook salmon ESU as comprised of coastal populations of spring-, summer- and fall-run Chinook salmon spawning north of the Columbia River and west of the Elwha River and determined that the ESU did not warrant listing as threatened or endangered under the ESA (63 FR 14308, March 24, 1999). The Petitioners are requesting that spring-run Chinook salmon on the WC be considered as a separate ESU and listed as threatened or endangered. The Petitioners assert that new research into the genomic basis for premature migration in salmonids demonstrates that significant genetic differences underlie the spring- and fall-run life history types, and that the unique evolutionary lineage of spring-run Chinook salmon warrants their listing as a separate ESU. The petition includes an overview of new research into the genomic basis for premature migration in salmonids, as well as general biological information about spring-run Chinook salmon on the WC including their distribution and range, life history characteristics, habitat requirements, as well as basin-level population status and trends and factors contributing to the populations' status. The Petitioners assert that spring-run Chinook salmon are facing existential threats, and therefore, if NMFS does not delineate and list the spring-run WC Chinook salmon population as threatened and endangered under the ESA, the current WC Chinook salmon ESU that includes spring-, summer- and fall-run populations should be listed as

threatened or endangered under the ESA. Copies of the petition are available as described above (see **ADDRESSES**).

ESA Statutory, Regulatory, and Policy Provisions, and Evaluation Framework

Section 4(b)(3)(A) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*), requires, to the maximum extent practicable, that within 90 days of receipt of a petition to list a species as threatened or endangered, the Secretary of Commerce makes a finding on whether that petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted, and to promptly publish such finding in the **Federal Register** (16 U.S.C. 1533(b)(3)(A)). When it is found that substantial scientific or commercial information in a petition indicates the petitioned action may be warranted (a “positive 90-day finding”), we are required to promptly commence a review of the status of the species concerned during which we will conduct a comprehensive review of the best available scientific and commercial data. In such cases, we conclude the review with a finding as to whether the petitioned action is warranted within 12 months of receipt of the petition. Because the finding at the 12-month stage is based on a more thorough review of the available information, as compared to the narrow scope of review at the 90-day stage, a “may be warranted” finding does not prejudge the outcome of the status review.

Under the ESA, a listing determination may address a species, which is defined to also include subspecies and, for any vertebrate species, any distinct population segment (DPS) that interbreeds when mature (16 U.S.C. 1532(16)). In 1991, we issued the Policy on Applying the Definition of Species Under the Endangered Species Act to Pacific Salmon (ESU Policy; 56 FR 58612, November 20, 1991), which explains that Pacific salmon populations will be considered a DPS, and hence a “species” under the ESA, if it represents an “evolutionarily significant unit” of the biological species. The two criteria for delineating an ESU are: (1) It is substantially reproductively isolated from other

conspecific populations; and (2) it represents an important component in the evolutionary legacy of the species. The ESU Policy was used to define the WC Chinook salmon ESU in 1999 (64 FR 50394, September 16, 1999), and we use it exclusively for defining DPSs of Pacific salmon. A joint NMFS–U.S. Fish and Wildlife Service (USFWS) (jointly, “the Services”) policy clarifies the Services’ interpretation of the phrase “distinct population segment” for the purposes of listing, delisting, and reclassifying a species under the ESA (DPS Policy; 61 FR 4722, February 7, 1996). In announcing this policy, the Services indicated that the ESU Policy for Pacific salmon was consistent with the DPS Policy and that NMFS would continue to use the ESU Policy for Pacific salmon.

A species, subspecies, or DPS is “endangered” if it is in danger of extinction throughout all or a significant portion of its range, and “threatened” if it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (ESA sections 3(6) and 3(20), respectively, 16 U.S.C. 1532(6) and (20)). Pursuant to the ESA and our implementing regulations, we determine whether species are threatened or endangered based on any one or a combination of the following five section 4(a)(1) factors: the present or threatened destruction, modification, or curtailment of habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; inadequacy of existing regulatory mechanisms to address identified threats; or any other natural or manmade factors affecting the species’ existence (16 U.S.C. 1533(a)(1), 50 CFR 424.11(c)).

ESA-implementing regulations issued jointly by the Services (50 CFR 424.14(h)(1)(i)) define “substantial scientific or commercial information” in the context of reviewing a petition to list, delist, or reclassify a species as “credible scientific or commercial information in support of the petitioner's claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted. Conclusions drawn in the petition without the support

of credible scientific or commercial information will not be considered ‘substantial information.’” In reaching the initial (90-day) finding on the petition, we consider the information described in sections 50 CFR 424.14(c), (d), and (g) (if applicable), and information readily available at the time the determination is made § 424.14(h)(1)(ii).

Our determination as to whether the petition provides substantial scientific or commercial information indicating that the petitioned action may be warranted will depend in part on the degree to which the petition includes the following types of information: (1) Information on current population status and trends and estimates of current population sizes and distributions, both in captivity and the wild, if available; (2) identification of the factors under section 4(a)(1) of the ESA that may affect the species and where these factors are acting upon the species; (3) whether and to what extent any or all of the factors alone or in combination identified in section 4(a)(1) of the ESA may cause the species to be an endangered species or threatened species (*i.e.*, the species is currently in danger of extinction or is likely to become so within the foreseeable future), and, if so, how high in magnitude and how imminent the threats to the species and its habitat are; (4) information on adequacy of regulatory protections and effectiveness of conservation activities by States as well as other parties, that have been initiated or that are ongoing, that may protect the species or its habitat; and (5) a complete, balanced representation of the relevant facts, including information that may contradict claims in the petition. See 50 CFR 424.14(d).

If the petitioner provides supplemental information before the initial finding is made and states that it is part of the petition, the new information, along with the previously submitted information, is treated as a new petition that supersedes the original petition, and the statutory timeframes will begin when such supplemental information is received. See 50 CFR 424.14(g).

We may also consider information readily available at the time the determination is made (§ 424.14(h)(1)(ii)). We are not required to consider any supporting materials cited by the petitioner if the petitioner does not provide electronic or hard copies, to the extent permitted by U.S. copyright law, or appropriate excerpts or quotations from those materials (*e.g.*, publications, maps, reports, letters from authorities). See 50 CFR 424.14(h)(1)(ii) and 50 CFR 424.14(c)(6).

The “substantial scientific or commercial information” standard must be applied in light of any prior reviews or findings we have made on the listing status of the species that is the subject of the petition. Where we have already conducted a finding on, or review of, the listing status of that species (whether in response to a petition or on our own initiative), we will evaluate any petition received thereafter seeking to list, delist, or reclassify that species to determine whether a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted despite the previous review or finding. Where the prior review resulted in a final agency action – such as a final listing determination, 90-day not-substantial finding, or 12-month not-warranted finding – a petitioned action will generally not be considered to present substantial scientific and commercial information indicating that the action may be warranted unless the petition provides new information or analysis not previously considered. See 50 CFR 424.14(h)(1)(iii).

During the 90-day finding stage, we do not conduct additional research, and we do not solicit information from parties outside the agency to help us in evaluating the petition. We will accept the Petitioner’s sources and characterizations of the information presented if they appear to be based on accepted scientific principles, unless we have specific information in our files that indicates the petition’s information is incorrect, unreliable, obsolete, or otherwise irrelevant to the requested action. Information that is susceptible to more than one interpretation or that is contradicted by other available

information will not be dismissed at the 90-day finding stage, so long as it is reliable and a reasonable person conducting an impartial scientific review would conclude it supports the petitioner's assertions. In other words, conclusive information indicating that the species may meet the ESA's requirements for listing is not required to make a positive 90-day finding. We will not conclude that a lack of specific information alone necessitates a negative 90-day finding if a reasonable person conducting an impartial scientific review would conclude that the unknown information itself suggests the species may be at risk of extinction presently or within the foreseeable future.

To make a 90-day finding on a petition to list a species, we evaluate whether the petition presents substantial scientific or commercial information indicating the subject species may be either threatened or endangered, as defined by the ESA. First, we evaluate whether the information presented in the petition, in light of the information readily available in our files, indicates that the petitioned entity constitutes a "species" eligible for listing under the ESA. Next, we evaluate whether the information indicates that the species faces an extinction risk such that listing, delisting, or reclassification may be warranted; this may be indicated in information expressly discussing the species' status and trends, or in information describing impacts and threats to the species. We evaluate any information on specific demographic factors pertinent to evaluating extinction risk for the species (*e.g.*, population abundance and trends, productivity, spatial structure, age structure, sex ratio, diversity, current and historical range, habitat integrity or fragmentation), and the potential contribution of identified demographic risks to extinction risk for the species. We then evaluate the potential links between these demographic risks and the causative impacts and threats identified in section 4(a)(1) of the ESA.

Information presented on impacts or threats should be specific to the species and should reasonably suggest that one or more of these factors may be operative threats that

act or have acted on the species to the point that it may warrant protection under the ESA. Broad statements about generalized threats to the species, or identification of factors that could negatively impact a species, alone, do not constitute substantial information indicating that listing may be warranted. We look for information indicating that not only is the particular species exposed to a factor, but that the species may be responding in a negative fashion; then we assess the potential significance of that negative response.

Many petitions identify risk classifications made by nongovernmental organizations, such as the International Union for Conservation of Nature (IUCN), the American Fisheries Society, or NatureServe, as evidence of extinction risk for a species. Risk classifications by such organizations or made under other Federal or State statutes may be informative, but such classification alone may not provide the rationale for a positive 90-day finding under the ESA. For example, as explained by NatureServe, their assessments of a species' conservation status do “not constitute a recommendation by NatureServe for listing under the U.S. Endangered Species Act” because NatureServe assessments “have different criteria, evidence requirements, purposes and taxonomic coverage than government lists of endangered and threatened species, and therefore these two types of lists should not be expected to coincide”

(<https://explorer.natureserve.org/AboutTheData/DataTypes/ConservationStatusCategories>). Additionally, species classifications under IUCN and the ESA are not equivalent; data standards, criteria used to evaluate species, and treatment of uncertainty are also not necessarily the same. Thus, when a petition cites such classifications, we will evaluate the source of information that the classification is based upon in light of the standards on extinction risk and impacts or threats discussed above.

Previous Federal Actions

On March 9, 1998, following the completion of a comprehensive status review of Chinook salmon (*Oncorhynchus tshawytscha*) populations in Washington, Oregon,

Idaho, and California, we identified a total of 15 ESUs of Chinook salmon and published a proposed rule to list 7 Chinook salmon ESUs as threatened or endangered under the ESA (63 FR 11482). We also identified the WC Chinook salmon ESU as comprised of coastal populations of spring-, summer- and fall-run Chinook salmon spawning north of the Columbia River and west of the Elwha River. We did not propose to list the WC ESU, concluding that the ESU is distributed among a relatively large number of populations, most of which are large enough to avoid serious genetic and demographic risks associated with small populations. Thus, we made the determination that the ESU was neither in danger of extinction nor likely to become endangered in the foreseeable future (63 FR 11482, 11494, March 9, 1998).

Evaluation of Petition and Information Readily Available in NMFS' Files

The petition contains information and assertions in support of listing Chinook salmon under the two alternatives requested by the Petitioners. As discussed above, based on biological, genetic, and ecological information compiled and reviewed as part of a previous West Coast Chinook salmon status review (Myers *et al.*, 1998), we included all spring-, summer- and fall-run Chinook salmon populations in river basins north of the Columbia River and west of the Elwha River in the WC Chinook salmon ESU (63 FR 11482, March 9, 1998). While run-timing was recognized as having a heritable basis, review of genetic data at that time did not identify clear sub-groups associated with migration timing within the WC Chinook salmon ESU. Spring- and fall-run Chinook salmon were found to be separate ESUs in other areas (*e.g.*, in the upper Columbia River, Snake River, and Sacramento River drainages). However, in coastal areas, life-history and genetic differences between runs were found to be modest, with spring- and fall-run fish exhibiting similar ocean distribution patterns and genetic characteristics (Myers *et al.*, 1998).

The Petitioners present new information on the genomics of run-timing and assert that the spring-run populations of the WC Chinook salmon ESU meet the two ESU criteria outlined by the above-described ESU policy. Relying on inferred evidence from outside the WC ESU, the Petitioners assert that spring-run Chinook salmon in the WC ESU have been sufficiently isolated from fall-run Chinook salmon for evolutionarily important differences to have arisen and been maintained. The Petitioners present genetic evidence from populations outside the WC Chinook salmon ESU to suggest the spring-run Chinook salmon populations on the WC may qualify as a separate ESU from the fall-run populations. The Petitioners assert that findings from recently published articles on the evolutionary basis of premature migration in Pacific salmon (Prince *et al.*, 2017; Narum *et al.*, 2018; and Thompson *et al.*, 2019; Koch and Narum 2020; Thompson *et al.*, 2020; Willis *et al.*, 2021; Waples *et al.*, 2022) indicate that spring-run Chinook salmon in the WC ESU should be considered a separate ESU. Specifically, Prince *et al.*, (2017) reported on a survey of genetic variation between mature (fall-run) and premature (spring- and summer-run) migrating populations of steelhead and Chinook salmon from California, Oregon, and Washington. Thompson *et al.*, (2019) provide additional information about genetic differentiation between mature- and premature-migrating Chinook salmon in the Rogue River, Oregon, and in the Klamath River, California, particularly in response to anthropogenic changes. The Petitioners suggest that the results of these studies indicate that premature migration arose from a single evolutionary event within the species and, if lost, is not likely to re-evolve in time frames relevant to conservation planning. Petitioners further assert that spring-run Chinook salmon have a unique evolutionary history that is distinct from fall-run Chinook salmon in the same watersheds (Prince *et al.*, 2017; Thompson *et al.*, 2020).

The Petitioners also assert that the Chinook salmon spring-run life history represents an important component of the evolutionary legacy of the species. In support

of this assertion, the Petitioners describe specific ecological (Quinn *et al.*, 2016) and evolutionary benefits of the life history variation provided by spring-run populations within the WC Chinook salmon ESU. The Petitioners describe how spring-run Chinook salmon tend to spawn higher up in the watershed than fall-run and how this adds to the spatial distribution of the species. We find that the petition presents scientific or commercial information indicating that spring-run Chinook salmon on the WC may qualify as an ESU pursuant to our ESU Policy.

WC Chinook Salmon Status and Trends

The Petitioners' listing request is focused on spring-run Chinook salmon declines in abundance, and they provide their analysis on the viability of and threats facing spring-run populations. Less information is provided regarding the fall-run populations.

The Petitioners assert that spring-run Chinook salmon populations in the WC ESU have suffered significant declines in numbers from historical abundance. The Petitioners cited findings by Nicholas and Hankin (1989) that all spring-run Chinook salmon populations on the WC are depressed from historical population sizes. Historically, spring-run Chinook salmon were abundant in the Chehalis, Quinault, Queets, and Hoh basins on the WC. The Petitioners use estimated in-river run size data from the Pacific Fishery Management Council (PFMC 2018) for the Chehalis, Queets, and Hoh basins and unpublished data from the Quinault Indian Nation for the Upper Quinault River. For all four basins, the data purportedly demonstrate downward population trends for spring-run Chinook salmon. The Petitioners also cite catch data from Tribal gillnet fishery records from 1953-1970 provided by the Washington Department of Fish and Wildlife (WDFW) and assert that the spring-run populations declined more rapidly than the fall-run populations during this time period. The petitioners attribute this decline to a rapid rise in the ocean salmon fisheries, both commercial and recreational. In particular, they note the growth in the troll fisheries off

the WC as a factor contributing to the decline of all populations of WC Chinook spring-run salmon populations. The Petitioners assert that the spatial and temporal patterns of the fisheries (commercial, recreational, and tribal) are likely a major factor that affected the spring-run populations of the WC Chinook salmon.

A previous West Coast Chinook salmon status review (Myers *et al.*, 1998) concluded that the long-term trends for most populations in this WC ESU were upward; however, several smaller populations (associated run types is unclear) were experiencing sharply downward trends. The status review concluded that fall-run populations were predominant and tended to be at a lower risk than spring- or summer-runs. The status review concluded that Chinook salmon in this ESU were not in danger of extinction nor were they likely to become so in the foreseeable future. However, it has been over 20 years since this status review was published and recent information on its status is incomplete.

The data in our files indicates that the WC Chinook salmon ESU consists of numerous fall-run populations and a smaller number of spring/summer-run populations. Overall abundance has been variable over the past several decades, but most populations do not have significant trends. The spring/summer-run populations make up about 10 percent of the total ESU abundance, and most populations are small with a few hundred or fewer spawners annually. If the spring/summer runs on the WC were to be considered a separate ESU, the extinction risk associated with these small populations would warrant evaluation. If both spring/summer- and fall-run were to be considered part of the same ESU, the contribution of run-timing diversity to that ESU's viability would warrant further evaluation based on updated science related to the genetic basis of run-timing.

Analysis of ESA Section 4(a)(1) Factors for Washington Coast Chinook Salmon

The Petitioners assert that all five ESA section 4(a)(1) factors contribute to the need to list spring-run Chinook salmon on the WC or, alternatively, the WC Chinook

salmon ESU (inclusive of all run types) as a threatened or endangered species under the ESA. While the petition presents information on each of the ESA section 4(a)(1) factors, we find that the information presented, including information within our files, regarding the destruction, modification, or curtailment of the species habitat or range; the inadequacy of existing regulatory mechanisms; and other natural or manmade factors affecting the species continued existence is substantial enough to make a determination that a reasonable person would conclude that the species may warrant listing as endangered or threatened based on these factors alone. As such, we focus our below discussion on the evidence and present our evaluation of the information regarding these factors and their impact on the extinction risk of the species. Each of these factors is discussed in further detail below.

The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

The Petitioners assert that WC Chinook salmon face numerous threats to suitable habitat, including impacts from historical and ongoing logging practices, road development, dams, water diversions, migration barriers, pollutants, and channelization.

The Petitioners assert that habitat degradation due to logging and road development alters streamflow, sediment loading, sediment transport and deposition, channel stability and shape, substrate composition, stream temperatures, water quality, and riparian conditions within a watershed. This is supported by similar conclusions in NMFS' 1998 determination for the WC chinook salmon ESU that evaluated the status of habitat threats over an area within the range of the WC Chinook salmon ESU and concluded that degraded habitat conditions in this area continue to be of concern, largely related to forestry practice (63 FR 11482, March 9, 1998). The Petitioners specifically assert that extensive logging can be harmful to Chinook salmon populations by causing depletion of summer and early fall streamflows needed for adult migration, holding,

spawning, and rearing. Perry and Jones (2017) found that after an initial delay, base streamflows were substantially decreased for decades in logged areas as compared to streamflows under pre-logging conditions.

The Petitioners further assert that large and small dams, water diversions, and other migration barriers impact WC Chinook salmon by significantly reducing the amount of spawning and rearing habitat, altering downstream river flows and temperature regimes, and delaying and impeding migration. Petitioners specifically describe dams in the Chehalis River that were built without fish passage and that have blocked access to historical habitats.

The Petitioners also highlight other ongoing anthropogenic disturbances that may cause habitat degradation including pollutants and channelization. The Petitioners cite numerous studies (Sedell and Froggatt 1984, Hulse *et al.*, 2002, and Lestelle *et al.*, 2005) that describe habitat impacts including decreased habitat complexity, decreased summer flows and water quality, and increased water temperatures.

The Petitioners cite Myers *et al.*, (1998), noting that all basins in the ESU were affected by habitat degradation, largely related to forestry practices, and that only the Queets and Quinault River basins were determined not to have substantial habitat problems. While the Petitioners provide general descriptions of ongoing habitat degradation from various sources, they do not provide specific information that would suggest that habitat conditions overall have markedly deteriorated since our last review in the 1990s. In fact, while we know that individual instances of habitat modification have taken place since the 1990s, over the past couple of decades conditions may have improved as a result of new forest harvest regulations, fish passage requirements, and habitat restoration efforts. However, it is reasonable to assume that the persistence of degraded habitat conditions may be exerting sustained negative effects on Chinook salmon on the WC, and disproportionately so on spring-run populations. Consequently,

changes in overall habitat condition and distribution are inconclusive and may be open to interpretation.

Inadequacy of Existing Regulatory Mechanisms

The Petitioners assert that existing international, Federal and State regulatory mechanisms are not sufficient to protect and ensure recovery of spring-run Chinook salmon occurring on the WC and their habitat. With respect to international regulatory mechanisms, the Petitioners assert that the Pacific Salmon Treaty does not require consideration of the condition of individual populations or the impacts on spring-run Chinook salmon populations from the WC in the determination of harvest allocations. The Petitioners state that, at the Federal level, the National Environmental Policy Act (NEPA), the ESA, the National Forest Management Act and Northwest Forest Plan, Olympic National Park, the Clean Water Act (CWA), and the Federal Energy Regulatory Commission (FERC) do not adequately protect spring-run Chinook salmon on the WC. Petitioners note that although the NEPA process requires Federal agencies to identify potential environmental impacts, NEPA analyses do not prohibit agencies from choosing project alternatives that may adversely affect spring-run Chinook salmon on the WC or their habitats. As a result, Petitioners assert that the NEPA process often affords little to no protections or alternatives to avoid harm to spring-run Chinook salmon. The Petitioners cite a proposed new dam on the mainstem of the Chehalis River as an example of a project that may adversely affect spring-run Chinook salmon on the WC. The proposed dam is designed to hold back flows and create a temporary reservoir when flows exceed a threshold level to ameliorate flooding downstream. When formed, the temporary reservoir would inundate more than 6 miles of the upper mainstem Chehalis River and the lower reaches of several major tributaries. The area of inundation would encompass historical spring-run Chinook salmon spawning grounds in the upper river (Phinney and Bucknell 1975; Weyerhaeuser 1994; Lestelle *et al.*, 2019). The Petitioners

note that, under section 404 of the Clean Water Act, the U.S. Army Corps of Engineers determined that the proposed dam project may have significant impacts on the environment and released a draft environmental impact statement (EIS) on the proposed dam project in 2020. The draft EIS used an Ecosystem Diagnosis and Treatment model (McConnaha *et al.*, 2017; ACOE 2020) to analyze the potential impacts of the proposed dam and concluded that during the 5-year construction period Chinook salmon returning to the upper mainstem river could be reduced by up to 80 percent. The draft EIS also concluded that impacts from the proposed dam at a basin-wide scale were predicted to be minimal for most modeled species and that habitat in the upper watershed above Crim Creek is currently beneficial salmonid habitat that can provide a buffer against future potential degradation (ACOE 2020). The final EIS has not been completed.

Petitioners assert that the spring-run Chinook salmon on the WC could be better protected under the ESA through Habitat Conservation Plans (HCP). Petitioners assert that the National Forest Management Act does not effectively limit the long-term impacts on salmonid habitat in Washington coastal watersheds from activities like logging, road-building, and mining. In 1990, the USFS adopted a Land and Resource Management Plan (LRMP) for the Olympic National Forest, which aimed to increase fish production potential through habitat enhancement projects. In 1998, the LRMP was amended to be consistent with the Northwest Forest Plan that includes an Aquatic Conservation Strategy (ACS) intended to maintain and protect native fish and their habitat (Thomas *et al.*, 1993; Reeves *et al.*, 2006). The ACS included designation of riparian management zones, activity-specific management standards, watershed assessments, watershed restoration, and identification of key watersheds. Among other things, the ACS requires the USFS to “maintain and restore the sediment regime under which aquatic ecosystems evolved” (USDA 1994). The Petitioners assert that there is little evidence to suggest that the

habitat improvements described in the LRMP or ACS have resulted in increased salmon production.

Petitioners assert further that portions of spring-run Chinook salmon populations spawn and rear within the Olympic National Park, benefiting from relatively pristine aquatic habitat conditions (Halofsky *et al.*, 2011). However, maintenance and repair of park roads adjacent to rivers have caused significant impacts on fish and aquatic life. Petitioners also note that spring-run Chinook salmon habitat in the park is still impacted by legacy effects of past logging and roads, leading to ongoing impairment of salmonid habitat, and that logging roads and associated channel crossings are still major issues for fish habitat quality (Halofsky *et al.*, 2011).

Petitioners call attention to Section 404 of the CWA as not adequately protecting spring-run Chinook salmon on the WC, particularly with respect to nonpoint sources of pollution like logging and farming (WDOE 2016; NIFWC 2020). The Petitioners assert that, in many areas, the Environmental Protection Agency-approved CWA water quality standards are not being met. In addition, Total Maximum Daily Loads (TMDLs) have not yet been developed and approved for many water bodies where the salmon are found; as a result, nonpoint source pollution is driving water quality issues in those water bodies.

Petitioners assert that FERC has provided inadequate protection for anadromous fish during its licensing, and relicensing processes. Petitioners use the Wynoochee Dam in the Chehalis River basin as an example. Wynoochee Dam was constructed in 1972 for flood control, irrigation, and industrial water storage; a powerhouse was added by Tacoma Power for hydroelectric energy in 1994. A FERC permit was issued for the dam in 1987, at which time there were no federally listed species. Tacoma Power operates a fish collection facility downstream, but the Petitioners assert that there are no requirements to ensure adequate downstream flows or water quality for the benefit of salmonids downstream of the dam.

The Petitioners reference several Washington state laws, initiatives, plans, and programs. This includes Washington state laws for salmon recovery and fish passage, the Washington Forest Practices Act, and the Washington State Environmental Policy Act; the Salmon Recovery Funding Board and affiliated Salmon Recovery Funding Program; the Grays Harbor Basin Salmon Management Plan; the Chehalis Basin Strategy; the Washington Coast Sustainable Salmon Plan; the State Wildlife Action Plan; and the salmon monitoring program conducted by WDFW and tribal biologists. However, the Petitioners assert that, despite the extensive efforts of these state and tribal management entities to protect the fisheries-related resources of the Washington coastal river basins, the wild spring-run Chinook salmon populations in those basins are in decline and are threatened with extinction.

We conclude that regulations are dynamic and are frequently modified over time. In general, since the listing of multiple species of salmon and steelhead along the West Coast in the 1990s, regulations have been revised to better protect these anadromous species. However, to the degree that habitat degradation can be an indicator of regulatory inadequacy, and given that we have found above that habitat degradation may be a threat to WC Chinook salmon, it stands to reason that regulatory mechanisms may be inadequate to protect WC Chinook salmon.

Other Natural or Manmade Factors Affecting Its Continued Existence

Climate Change and Ocean Conditions

The Petitioners assert climate change is impacting the quantity and quality of habitat for WC Chinook salmon, especially spring-run populations, with the melting of glaciers on the Olympic Peninsula, changes in precipitation patterns, lower summer stream flows, higher water temperatures, and reduction in food due to changing ocean conditions. Citing the Intergovernmental Panel on Climate Change (IPCC) 2021 report, Petitioners call out the last four decades of successive air temperature increases, and the

projected rise in global temperatures. Petitioners also assert that climate change will profoundly affect the Pacific Northwest. With a focus on the Olympic Peninsula, impacts such as warming, sea level rise, erosion, and changes in stream flows will not be uncommon (Halofsky *et al.*, 2011; Dalton *et al.*, 2016). Petitioners state freshwater habitat changes due to climate change will adversely affect WC Chinook salmon, especially spring-run populations. Citing Halofsky *et al.*, 2011, the Petitioners note it is uncertain whether salmon populations can adapt quickly enough to cope with the combined effects of anthropogenic climate change. Using a 2011 NMFS study as support, the Petitioners also assert that throughout the life cycle of salmon along the WC, the main predicted effects include warmer, drier summers, reduced snowpack, lower summer flows, higher summer stream temperatures, and increased winter floods. The Petitioners assert that climate change is altering offshore and nearshore habitat of the WC including warming sea surface temperatures (Mote and Salathe 2010; Miller *et al.*, 2013; USFWS 2020), upwelling pattern changes (Miller *et al.*, 2013), and increased acidification (Miller *et al.*, 2013) leading to limited ocean productivity for salmon (Ford 2022).

The Petitioners assert that ongoing threats of poor ocean conditions and climate change are likely to threaten the continued existence of WC Chinook salmon, including spring-run populations. As described in NMFS' 5-year reviews (Stout *et al.*, 2012; NMFS 2016; NMFS 2022) variability in ocean conditions in the Pacific Northwest is a concern for the persistence of WC salmon because it is uncertain how populations will fare in periods of poor ocean survival when freshwater and estuarine habitats are degraded. Petitioners also assert there are correlations between oceanic changes and salmon abundance in the Pacific Northwest, and concerns about how prolonged periods of poor marine survival due to unfavorable ocean conditions may impact the population abundance, productivity, spatial structure, and diversity of WC salmonids (Stout *et al.*, 2010).

Petition Finding

After reviewing the information contained in the petition, as well as information readily available in our files, we conclude that substantial scientific and commercial information indicates that the petitioned action to list spring-run Chinook salmon on the WC as threatened or endangered under the ESA or, alternatively, list the WC Chinook salmon ESU (inclusive of all run types) as a threatened or endangered species under the ESA may be warranted. Therefore, in accordance with section 4(b)(3)(A) of the ESA and NMFS' implementing regulations (50 CFR424.14(h)(2)), we will commence a status review of Chinook salmon on the WC. During our status review, we will include an ESU analysis to determine the appropriate ESU(s) and evaluate the ESU containing spring-run fish to determine if listing as a threatened or endangered species is warranted. As required by section 4(b)(3)(B) of the ESA, within 12 months of the receipt of the petition, we will make a finding as to whether listing WC Chinook salmon under the ESA is warranted.

Information Solicited

To ensure that our status reviews are informed by the best available scientific and commercial data, we are opening a 60-day public comment period to solicit relevant new information since the 1998 status review (Myers *et al.*, 1998) or information not considered before on populations of Chinook salmon within the previously identified WC Chinook salmon ESU, which consists of Chinook salmon that spawn north of the Columbia River and west of the Elwha River. We request information from the public, concerned governmental agencies, Native American tribes, the scientific community, agricultural and forestry groups, conservation groups, fishing groups, industry, or any other interested parties concerning the current and/or historical status of Chinook salmon on the WC. Specifically, we request information regarding: (1) species abundance; (2) species productivity; (3) species distribution or population spatial structure; (4) patterns

of phenotypic, genotypic, and life history diversity; (5) habitat conditions and associated limiting factors and threats; (6) ongoing or planned efforts to protect and restore the species and their habitats; (7) information on the adequacy of existing regulatory mechanisms, whether protections are being implemented, and whether they are proving effective in conserving the species; (8) data concerning the status and trends of identified limiting factors or threats; (9) information on targeted harvest (commercial and recreational) and bycatch of the species; (10) other new information, data, or corrections including, but not limited to, taxonomic or nomenclatural changes; and (11) information concerning the impacts of environmental variability and climate change on survival, recruitment, distribution, and/or extinction risk; and traditional ecological knowledge related to any of the previous 11 categories of information regarding this species.

We request that all information be accompanied by: (1) supporting documentation such as maps, bibliographic references, or reprints of pertinent publications; and (2) the submitter's name, and any association, institution, or business that the person represents.

References

A complete list of all references cited herein is available upon request (See **FOR FURTHER INFORMATION CONTACT**).

Authority: The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: December 4, 2023.

Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

